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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,848	10/10/2001	Andre Hecq	P 63014 US 0	6458

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EXAMINER	
DICUS, TAMRA	
ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 10/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/868,848	HECQ ET AL.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *28-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 29, 32, 35, 38, and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 29, 32, 35, 38, and 45 state the limitation "such that if applied". The phrase "such that" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 28 is rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,068,914 to Boire et al.

Boire teaches a glazing panel having an antireflection coating which are pyrolysed on glass substrates at col. 2, lines 4-25 and col. 3, lines 1-10. Boire further uses glass substrates such as soda-lime glass in Example 1. At col. 9, line 7, Boire's substrate exhibits selectivity of at least 1.65, which is included in Applicant's claimed range of at least 1.1, see also col. 5, line 43. The fact that the selectivity was measured with Illuminant C is not germane to patentability, since the same components and values are taught and used. Further, the selectivity comparison of coated to uncoated glass is inherent since the same components are used. Boire expresses the importance of choosing glass thickness in order to impart the selectivity properties and further teaches the applicability of such a glass for vehicles refer to col. 1, lines 45-47, col. 5, lines 12-20, and therefore chooses the thickness of the soda-lime glass substrate of 4mm in Example 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 28-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,877,103 to Dupont et al. in view of USPN 6,068,914 to Boire et al., USPN 6,103,650 to Krumwiede, USPN 5,989,717 to Allemand et al., and GB 2,302,101 to Hannotiau et al.

Dupont teaches a substrate made of colored soda-lime glass composed of glass-forming

constituents and coloring agents measured with Illuminant C having a glass thickness of at least 3 mm when applicable for vehicles and possibly more than 4 mm, further meeting the limitation of claim 45 to a thickness of 6 mm, when used in buildings at col. 5, lines 1-68 and col. 6, lines 1-18.

Dupont does not explicitly state a pyrolytic coating deposited on the substrate. Nevertheless, Dupont does disclose it is known to provide a metal oxide coating glazing in order to reduce heating by solar radiation, thereby reducing the interior heat in a vehicle at col. 6, lines 3-6. The Examiner contends the glazed metal oxide coating is equivalent to a pyrolytic coating. Moreover, Boire teaches a glazing panel having an antireflection coating which are pyrolysed on glass substrates at col. 2, lines 4-25 and col. 3, lines 1-10. Hence it would have been obvious to one of ordinary skill in the art to modify the colored soda-lime glass substrate of Dupont to include a pyrolysed coating for the purpose of providing heat reducing characteristics as taught by Dupont and to provide antireflection properties as taught by Boire at col. 3, lines 10-26.

Regarding claims 29, 32, 35, and 38, parts A, D, and H to the transmission wavelength properties of the coating and substrate are inherent properties since the same materials and thickness of 4mm are used.

Dupont teaches using the composition of B in claims 29, 32, 35, and 38, therefore the properties to total transmission, selectivity, and purity are all properties taught by Hannotiau in Table A.

Regarding C and E (i)-(iii) and (v) of claims 29, 32, 35, and 38, the limitations "coating deposited by..." are process limitations in a product claim. Process not withstanding, see MPEP 2113. Moreover, Boire teaches it is known to deposit titanium nitride for the purpose of having

filtering/reflecting properties at col. 7, lines 49-50 and to deposit WO_3, Ta_2O_5, Nb_2O_5 at col. 4, lines 10-25, lines 62-63 and are known as imparting high-index properties by various deposition methods which include CVD and pyrolyization at col. 2, lines 13-30, col. 3, lines 22-25, and col. 4, line 11. In addition, Krumwiede teaches a soda-lime-silica glass of Fe, Co, and Ti and discloses it is also known to deposit WO_3, Ta_2O_5, Nb_2O_5 at weight percentages listed in col. 7, lines 45-55 meeting the molar ratio of 5 to 100 mol per 100 mol of metal oxide limitation of (ii) (see further col. 7, lines 1-25), and further teaches the addition of V_2O_5 in order to impart a yellow-green color to glass and for the adsorption of UV and IR radiation at col. 7, lines 35-36. Boire, Krumwiede, and Dupont are analogous art because all references are in the same field of endeavor, namely glass manufacturing. Hence it would have been obvious to one of ordinary skill in the art to modify the soda-lime glass of Dupont to further include WO_3, Ta_2O_5, Nb_2O_5 to impart high-index properties as taught by Boire, and to add V_2O_5 to impart a yellow-green color and absorptive properties as taught by Krumwiede.

Dupont does not teach E (iv) of claims 29, 32, 35, and 38 to the addition of fluorine-doped tin oxide. However, Allemand teaches electrochromic devices that are applied in glazing mirrors of vehicles at col. 5, line 40-45. Allemand teaches applying fluorine-doped tin oxide to soda-lime glass for the purpose of increasing light transmission and inhibiting reflected color at col. 7, line 48 and col. 8, lines 23-34. Regarding A of claim 44, Allemand teaches placing an additional layer between the fluorine-doped tin oxide coating and glass substrate at col. 8, lines 23-25. The limitation "deposited by ..." of claim 44 parts A-C, are process limitations in a product claim. Process not withstanding, see MPEP 2113. Also, Allemand teaches it is well known to add WO_3, Ta_2O_5, Nb_2O_5 and V_2O_5 since they are well known electrochemically active

materials, and further teaches the addition of polymers which are electronic conductors or semiconductors at col. 8, lines 45-57. The emissivity of less than 0.3 property is inherent as the same components are used. Allemand and Dupont are analogous art because both references are in the same field of endeavor, namely glass manufacturing. Hence it would have been obvious to one of ordinary skill in the art to modify the soda-lime glass of Dupont to include fluorine-doped tin oxide for the purpose of providing a glazing coated soda-lime glass structure with increased light transmission, conduction, and/or inhibition of reflected color as taught by Allemand.

Dupont does not teach glass may be bent, heated, annealed, or tempered. Regardless, the limitation "substrate is bent..." is a process limitation in a product claim. Process not withstanding. See MPEP 2113. Further, Boire teaches glass substrates may undergo various heat treatments including bending, tempering, or annealing at col. 7, lines 30-33.

Regarding claims 29, 32, 35, and 38- parts G and I and 45, light reflection and/or transmission factors are inherent properties as the same components are used. Further the limitation of the transmission factor being measured with Illuminant C is taught by Dupont at col. 1, lines 41-45 and transmission being less than or equal to 65%, meeting the limitation of claim 45 to being less than 70%, is taught by Boire at col. 7, lines 25-30.

Further addressing claim 44 A – C, and claims 41-43, Dupont does not teach a coating comprising tin and antimony or the selectivity requirements of at least 1.3/less than or equal to 2, or the increased selectivity characterization of claim 43. Hannotiau teaches using tin and antimony in a glazing panel on a glass substrate for vehicle windows for the advantage of providing solar screening properties which includes properties such as a selectivity of at least 1.3, luminous/light transmittance of less than 35%, having a thickness of at least 400 nm in the

same range as Applicant and a molar ratio of 0.05 to 0.5 in the same range as Applicant at pg. 4, lines 21-28. Hannotiau also teaches using a silicon oxide coating under soda-lime glass for the benefit of inhibiting the migration of sodium ions during high temperature treatment at pg. 6, lines 25-29. Therefore, it would have been obvious to one of ordinary skill in the art to modify the glass of Dupont to include tin and antimony in the molar ratios from 0.01 up to 0.5 with a thickness between 250 and 500 nm in order to provide a glass structure with a low total transmitted energy factor while retaining a sufficient level of light transmission, low emissivity, and a low solar factor as taught by Hannotiau at pg. 6, lines 3-10, and to inhibit the migration of sodium ions.

Further addressing claims 28 and 45, Dupont does not explicitly teach a selectivity of at least 1.1, however this property is inherent since the same materials are used. That the pyrolytic coating provides a glazing with an increased selectivity with respect to the selectivity of the uncoated colored glass is an inherent property since the same components are used.

Further addressing claim 45 parts C and D, it is inherent for a glazing coating to conform to the formula of C and D since the same components are used.

The examiner has established a *prima facie* case of obviousness and has provided evidentiary support thereof for the rejection of claims 28-45 under 35 U.S.C. 103(a).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 5,728,471 to Dupont et al. teaches a frit comprising a lower composition of

Fe_2O_3, Co, Se, and Cr_2O_3. USPN 4,894,290 and 4,749,397 to Chesworth et al. teaches bending glass and the glass substrate to impart transmissive properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tamra L. Dicus
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

October 24, 2002